



**EXPRESS MAIL NO.: EL984585808US**  
**Deposited On: May 12, 2004**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Application No.: 10/661,430** **Confirmation No.: 9475**  
**Applicant(s): Richard D. Cummings and Ziad Kawar**  
**Filed: 09/12/2003**  
**TC/A.U.: 1632**  
**Examiner: Unknown**  
**Title: BETA1, 4-ACETYL GALACTOSAMINYLTRANSFERASES,**  
**NUCLEIC ACIDS AND METHODS OF USE THEREOF**

**Docket No.: 7148.001**  
**Customer No.: 30589**

**Mail Stop**  
**Commissioner for Patents**  
**P.O. Box 1450**  
**Arlington, VA 22313-1450**

**INFORMATION DISCLOSURE STATEMENT**

**List of Sections Forming Part of This  
Information Disclosure Statement**

The following sections are being submitted for this Information Disclosure Statement:

1. ☒ Preliminary Statements
2. ☒ Form PTO-1449 (Modified)
3. ☐ Statement as to Information Not Found in Patents or Publications
4. ☐ Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted

5.    ☒ Copies of Listed Information Items Accompanying this Statement
6.    ☒ Identification of Person(s) Making this Information Disclosure Statement

## **Section 1. Preliminary Statements**

Applicants submit herewith patents, publications or other information of which they are aware, which they believe may be material to the examination of this application and in respect of which there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. § 1.97(g)), an admission that the information cited is, or is considered to be, material to patentability or that no other material information exists.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

## **Section 2. Form PTO-1449 (Modified)**

☒ A Completed Form PTO-1449 (Modified) is attached hereto.

## **Section 3. Statement as to Information Not Found in Patents or Publications (Information Not Listed in Form PTO-1449(Modified))**

## **Section 4. Identification of Prior Application in Which Listed Information Was Already Cited and for Which No Copies Are Submitted or Need Be Submitted**

This application relies, under 35 U.S.C. § 120, on the earlier filing date of prior application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_ (date).

*(complete the following, if applicable)*

- ☐ This application also relies, under 35 U.S.C. 120, on the earlier filing date of prior application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_ (date).

The following references were submitted to, and/or cited by, the Office in the prior application(s) and therefore, are not required to be provided in this application:

### **Section 5. Copies of Listed Information Items Accompanying this Statement**

Legible copies of all items listed in Form PTO-1449 (Modified) accompany this information disclosure statement.

- ☐ Exception(s) to above:
- ☐ Items in prior application from which an earlier filing date is claimed for this application, as identified in Section 4.
- ☐ Cumulative patents or publications identified in Section 5.

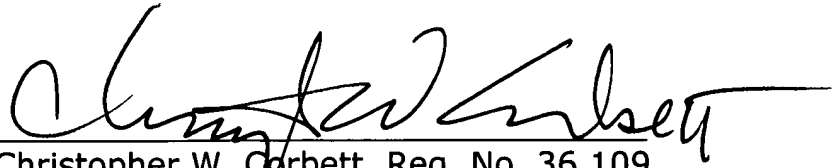
### **Section 6. Identification of Person(s) Making this INFORMATION DISCLOSURE STATEMENT**

The person making this statement is the attorney who signs below on the basis of the information:

- ☒ supplied by the inventor(s)
- ☐ supplied by an individual associated with the filing and prosecution of this application (37 C.F.R. § 1.56(c)).

[ ] in the attorney's file

Respectfully submitted,

A handwritten signature in black ink, appearing to read "Christopher W. Corbett", written over a horizontal line.

Christopher W. Corbett, Reg. No. 36.109

DUNLAP, CODDING & ROGERS, P.C.

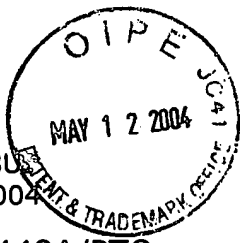
P.O. Box 16370

Oklahoma City, Oklahoma 73113

Telephone: (405) 607-8600

Facsimile: (405) 607-8686

Agent for Applicant



Express Mail: EL984585808U

Date Deposited: May 12, 2004

Substitute for form 1449A/PTO

INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT

(use as many sheets as necessary)

Complete If Known	
Application Number	10/661,430
Filing Date	09/12/2003
First Named Inventor	Richard D. Cummings et al.
Group Art Unit	1632 (Conf. No. 9475)
Examiner Name	Unknown
Attorney Docket Number	7148.001

## U. S. PATENT DOCUMENTS

EXAM INIT.	Cite No. 1	U.S. PATENT NUMBER Number	Kind Code <sup>2</sup> (If known)	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear

## FOREIGN PATENT DOCUMENTS

EXAM INIT.	Cite No. 1	Foreign Patent Document	Name of Patentee or Applicant of Cited Document	Date of Publication of Cited Document MM-DD-YYYY	Pages, Columns, Lines Where Relevant Passages or Relevant Figures Appear	T <sup>6</sup>
		Office 3 Number 4 Kind Code <sup>5</sup> (If known)				

**U.S. and Foreign:** <sup>1</sup>Unique citation designation number. <sup>2</sup>See attached Kinds of U.S. Patent Documents. <sup>3</sup>Enter Office that issued the document, by the two-letter code (WIPO Standard St.3). <sup>4</sup>Form Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup>Kind of document by the appropriate symbols as indicated on the document under WIPO Standard St. 16 if possible. <sup>6</sup>Applicant is to place a check mark here if English language Translation is attached.

## NON PATENT DOCUMENTS

Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published

EXAM INIT.		
	1	DELL, A., ET AL., "Structural Analysis of the Oligosaccharides Derived from Glycodelin, a Human Glycoprotein with Potent Immunosuppressive and Contraceptive Activities", <i>J Biol Chem</i> 270, (1995) 24116-24126
	2	DHARMESH, S.M., ET AL., "Co-ordinate and Restricted Expression of the ProXaaArg/Lys-specific GalNAc-transferase and the GalNAc $\beta$ 1, 4GlcNAc $\beta$ 1, 2Man $\alpha$ -4-sulfotransferase", <i>J Biol Chem</i> 268, (1993) 17096-17102
	3	DO, K.Y., ET AL., " $\alpha$ -Lactalbumin Induces Bovine Milk $\beta$ 1,4-Galactosyl-transferase to Utilize UDP-GalNAc", <i>J Biochem Biophys Methods</i> 270, (1992) 18447-18451

EXAM INIT.	NON PATENT DOCUMENTS	
	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published	
4		MANZELLA, S. M., ET AL., "Oligosaccharides Containing $\beta$ 1,4-Linked N-Acetylgalactosamine, a Paradigm for Protein-specific Glycosylation", <i>J Biol Chem</i> 271, (1996) 12117-12120
5		MENGELING, B. J., ET AL., "A cluster of basic amino acids within an $\alpha$ -helix is essential for $\alpha$ -subunit recognition by the glycoprotein hormone N-acetylgalactosaminyltransferase", <i>Proc Natl Acad Sci U S A</i> 92, (1996) 502-506
6		MORELLE, W., ET AL., "Phosphorylcholine-containing N-glycans of <i>Trichinella spiralis</i> : identification of multiantennary lacdiNAc structures", <i>Glycobiology</i> 10, (2000) 941-950
7		NYAME, K., ET AL., "Complex-type Asparagine-linked Oligosaccharides in Glycoproteins Synthesized by <i>Schistosoma mansoni</i> Adult Males Contain Terminal $\beta$ -Linked N-Acetylgalactosamine", <i>J Biol Chem</i> 264, (1989) 3235-3243
8		NYAME, A. K., ET AL., "Mice infected with <i>Schistosoma mansoni</i> generate antibodies to LacdiNAc (GalNAc $\beta$ 1 $\rightarrow$ 4GlcNAc) determinants", <i>Glycobiology</i> 9, (1999) 1029-1035
9		RAMAKRISHNAN, B., ET AL., "Structure-based Design of $\beta$ 1,4-Galactosyltransferase I ( $\beta$ 4Gal-T1) with Equally Efficient N-Acetylgalactosaminyltransferase Activity", <i>J Biol Chem</i> 277, (2002) 20833-20839
10		SAARINEN, J., ET AL., "N-Glycan structures of matrix metalloproteinase-1 derived from human fibroblasts and from HT-1080 fibrosarcoma cells", <i>Eur J Biochem</i> 259, (1999) 829-840
11		VAN DEN NIEUWENHOF, I. M., ET AL., "Bovine mammary gland UDP-GalNAc:GlcNAc $\beta$ -R $\beta$ 1 $\rightarrow$ 4-N-acetylgalactosaminyltransferase is glycoprotein hormone nonspecific and shows interaction with $\alpha$ -lactalbumin" <i>Glycobiology</i> 9, (1999) 115-123
12		VAN REMOORTERE, A., ET AL., "Profiles of Immunoglobulin M (IgM) and IgG Antibodies against Defined Carbohydrate Epitopes in Sera of <i>Schistosoma</i> -Infected Individuals Determined by Surface Plasmon Resonance", <i>Infect Immun</i> 69, (2001) 2396-2401
Non Patent Documents: <sup>1</sup> Unique citation designation number. <sup>2</sup> Applicant is to place a check mark here if English language Translation is attached.		
Examiner Signature:		Date Considered:
EXAMINER: Initial if citation considered, whether or not citation is in conformance and not considered. Include copy of this form with next communication to applicant. **Place of Publication refers to name of publication in which the information was published.		

Express Mail No.:

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Date Deposited:

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PTO DEPOSIT ACCOUNT CHARGE

ACCOUNT #04-1700

PTO/SB/17 (10-03)

Approved for use through 07/31/2006. OMB 0651-0032  
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE  
DUNLAP, CODDING & ROGERS, P.C.

## FEE TRANSMITTAL

for FY 2004

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT

(\$ 180)

## Complete if Known

Application Number	10/661,430
Filing Date	09/12/2003
First Named Inventor	Richard D. Cummings
Examiner Name	Unknown
Art Unit	1632
Attorney Docket No.	7148.001

## METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money Order ☐ Other ☐ None
☒ Deposit Account:
 Deposit  
Account  
Number  
Deposit  
Account  
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Customer No. 30589

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments☒ Charge any additional fee(s) during the pendency of this application☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

## FEE CALCULATION

## 1. BASIC FILING FEE

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description	Fee Paid
1001 770	2001 385	Utility filing fee	
1002 340	2002 170	Design filing fee	
1003 530	2003 265	Plant filing fee	
1004 770	2004 385	Reissue filing fee	
1005 160	2005 80	Provisional filing fee	

SUBTOTAL (1) (\$ 0)

## 2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fee from below	Fee Paid
Independent Claims	** =	X	\$0
Multiple Dependent	** =	X	\$0

Large Entity Fee Code (\$)	Small Entity Fee Code (\$)	Fee Description
1202 18	2202 9	Claims in excess of 20
1201 86	2201 43	Independent claims in excess of 3
1203 290	2203 145	Multiple dependent claim, if not paid
1204 86	2204 43	** Reissue independent claims over original patent
1205 18	2205 9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$ 0)

\*\*or number previously paid, if greater. For Reissues, see above

## FEE CALCULATION (continued)

## 3. ADDITIONAL FEES

Large Entity Small Entity

Fee Code (\$)	Fee Code (\$)	Fee Description	Fee Paid
1051 130	2051 65	Surcharge - late filing fee or oath	
1052 50	2052 25	Surcharge - late provisional filing fee or cover sheet	
1053 130	1053 130	Non-English specification	
1812 2,520	1812 2,520	For filing a request for ex parte reexamination	
1804 920*	1804 920*	Requesting publication of SIR prior to Examiner action	
1805 1,840*	1805 1,840*	Requesting publication of SIR after Examiner action	
1251 110	2251 55	Extension for reply within first month	
1252 420	2252 210	Extension for reply within second month	
1253 950	2253 475	Extension for reply within third month	
1254 1,480	2254 740	Extension for reply within fourth month	
1255 2,010	2255 1,005	Extension for reply within fifth month	
1401 330	2401 165	Notice of Appeal	
1402 330	2402 165	Filing a brief in support of an appeal	
1403 290	2403 145	Request for oral hearing	
1451 1,510	1451 1,510	Petition to institute a public use proceeding	
1452 110	2452 55	Petition to revive - unavoidable	
1453 1,330	2453 665	Petition to revive - unintentional	
1501 1,330	2501 665	Utility issue fee (or reissue)	
1502 480	2502 240	Design issue fee	
1503 640	2503 320	Plant issue fee	
1460 130	1460 130	Petitions to the Commissioner	
1807 50	1807 50	Processing fee under 37 CFR 1.17(q)	
1806 180	1806 180	Submission of Information Disclosure Stmt	180
8021 40	8021 40	Recording each patent assignment per property (times number of properties)	
1809 770	2809 385	Filing a submission after final rejection (37 CFR 1.129(a))	
1810 770	2810 385	For each additional invention to be examined (37 CFR 1.129(b))	
1801 770	2801 385	Request for Continued Examination (RCE)	
1802 900	1802 900	Request for expedited examination of a design application	

Other fee (specify)

\*Reduced by Basic Filing Fee Paid

SUBTOTAL (3) (\$ 180)

## SUBMITTED BY

Name (Print/Type) Christopher W. Corbett

Signature

Registration No.  
(Attorney/Agent)

36,109

(Complete if applicable)

Telephone (405) 607-8600

Date

05/12/2004

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**TRANSMITTAL  
FORM**

(to be used for all correspondence after initial filing)

Application Number	10/661,430
Filing Date	09/12/2003
First Named Inventor	Richard D. Cummings
Group Art Unit	1632
Examiner Name	Unknown
Attorney Docket Number	7148.001

Total Number of Pages in This Submission

**ENCLOSURES (check all that apply)**

- |  |   |   |
|--|---|---|
| <input checked="" type="checkbox"/> Fee Transmittal Form<br><input type="checkbox"/> Fee Attached<br><input type="checkbox"/> Amendment / Reply<br><input type="checkbox"/> After Final<br><input type="checkbox"/> Affidavits/declaration(s)<br><input type="checkbox"/> Extension of Time Request<br><input type="checkbox"/> Express Abandonment Request<br><input checked="" type="checkbox"/> Information Disclosure Statement<br><input type="checkbox"/> Certified Copy of Priority Document(s)<br><input type="checkbox"/> Response to Missing Parts/ Incomplete Application<br><input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53 | <input type="checkbox"/> Assignment Papers (for an Application)<br><input type="checkbox"/> Drawing(s)<br><input type="checkbox"/> Licensing-related Papers<br><input type="checkbox"/> Petition<br><input type="checkbox"/> Petition to Convert to a Provisional Application<br><input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address<br><input type="checkbox"/> Terminal Disclaimer<br><input type="checkbox"/> Request for Refund<br><input type="checkbox"/> CD, Number of CD(s) _____ | <input type="checkbox"/> After Allowance Communication to Group<br><input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences<br><input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief)<br><input type="checkbox"/> Proprietary Information<br><input type="checkbox"/> Status Letter<br><input checked="" type="checkbox"/> Other Enclosure(s) (please identify below):<br><br>See remarks below: |
|--|---|---|

**Remarks**

1. Transmittal (1 page);
2. Fee Transmittal (1 page) authorizing the Commissioner to charge indicated fees of \$180.00 for submission of Information Disclosure Statement and any additional fee required and/or credit any overpayments to Deposit Account Dunlap, Coddling & Rogers, P.C.;
3. Information Disclosure Statement (4 pages);
4. Form PTO-1449 (2 pages);
5. Copies of cited material; and
6. Return Receipt Postcard

**SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT**

Firm or Individual name	DUNLAP, CODDING & ROGERS, P.C., Customer Number 30589 P. O. Box 16370, Oklahoma City, Oklahoma 73113; Christopher W. Corbett
Signature	
Date	5/12/04

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as first class mail or U.S. Express mail no. EL 984586247 US in an envelope addressed to the address below on this date: 05/12/2004

Typed or printed name Christopher W. Corbett, Reg. No. 36,109

Signature

Date

5/12/04

SEND TO: Commissioner for Patents  
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Alexandria, VA 22313-1450